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HRSG Stack Plugs & Balloons

HRSG Exhaust Stacks - Heat Recovery Steam Generator Balloon Plugs



STACK BALLOON DUCT PLUGS OFFER TREMENDOUS SAVINGS FOR COMBINED CYCLE PLANTS

Using a HRSG Stack balloon plug from Perpetual Evolution Designs can be very beneficial in cost savings. Fuel and startup times can be decreased, while keeping the unit warm during off line periods.

These balloons are fairly easy to install once the support system has been designed and is in place. We only offer the inflatable and it's inflation fan. All other supporting elements need to be purchased from vendors who deal with fabrication and after market modifications to this style of equipment, in these environments. This includes having an after market panel or door cut into the stack for this use. Once the hanging system is in place, the inflatable can be inserted in approximately 15 minutes. This includes unfolding the fabric, attaching connection points to floating rings using quick links, checking zippers and connecting the inflation tube to the blower. Removal is the same process in reverse steps and takes approximately the same amount of time. Zippers are installed so that they open towards the operator and allow for fast removal.

Once installed and inflated, the stack balloon can help shield steel parts that would otherwise remain exposed to elements that would cause these parts to rust and break down. The fabric used for these is a water repellent 400 denier pack cloth that's made to accept the abuse of rain and moisture. If moisture on the blocked side of the stack is an issue, we can build in a pass through that allows humidity to escape the stack.

These products, like other duct plug inflatables, require a constant source of air via an electric powered inflation fan. This fan can be located away from the inflatable by allowing it to feed the plug w/ air through an 8" diameter flexible blo-n-vent hose w/ wear strips. These hoses can be as long as 75' and still function properly. It's important to note that the inflation fan needs to breathe and cannot be completely dog-housed w/ out proper ventilation.

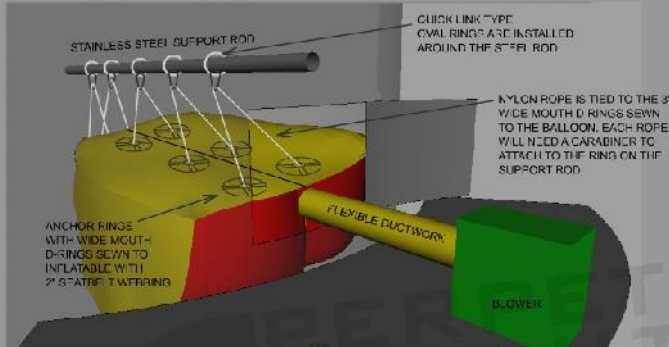
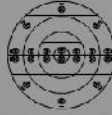
When storing the inflatable duct plug, it's important to make sure it's dry before packing and rolling for storage. Fabric put away wet is subject to mildew and decay at an alarming rate. Moving the inflatable to an unused portion of the plant and allowing it to be inflated while drying indoors for 24-48 hours is a good idea.



STAINLESS STEEL SUPPORT ROD WILL NEED TO BE INSTALLED ABOVE THE ACCESS DOOR. THIS ROD NEEDS TO BE INSTALLED TO COVER THE FULL DIAMETER OF THE STACK. IT SHOULD BE INSTALLED IN A LOCATION THAT IS UNDERNEATH ANY CEMS EQUIPMENT. PERPETUAL EVOLUTION DESIGNS DOES NOT SUPPLY THIS ROD. IT WILL NEED TO BE INSTALLED BY A CONTRACTOR IN YOUR AREA.

CARRY THE BALLOON IN ITS VINYL BAG TO THE PLATFORM ELEVATION WITH THE ACCESS DOOR

UNFOLD THE BALLOON SO THAT THE ANCHOR RINGS ARE FACING UPWARD. THERE WILL BE A SET OF THESE ON EITHER SIDE OF THE CENTER SEAM



HRSG STACK BALLOON INSTALLATION OVERVIEW



ATTACH THE CARABINERS TO THE FLOATING RINGS SO THAT THE INFLATABLE BEGINS TO HANG INSIDE THE STACK. KEEPING THE INFLATION TUBE TOWARDS THE ACCESS PANEL.

THE DEFLATION ZIPPER WILL HAVE A LARGE PULL THAT CAN BE ATTACHED TO A 1/4" ROPE, ALLOWING THE ZIPPER TO BE PULLED FROM THE ACCESS DOOR IF THE INFLATABLE NEEDS TO BE QUICKLY DEFLATED.

ONCE ALL THE ANCHOR LINES ARE IN PLACE, THE BLOWER CAN BE CONNECTED TO THE 8" DIA INFLATION DUCTWORK. THE BLOWER CAN THEN BE POWERED ON.

AS THE BALLOON INFLATES, IT WILL FILL OUT THE DIAMETER OF THE STACK AND WILL CENTER ITSELF WHEN IT REACHES FULL PRESSURE.

THE BLOWER MUST REMAIN ON DURING THE FULL PERIOD THAT THE BALLOON IS INSTALLED. STACK BALLOONS ARE USUALLY INSTALLED AT A SLIGHT ANGLE TO ALLOW WATER TO RUN OFF NEAR THE ACCESS PANEL.



INFLATABLE DUCT PLUG PHOTO GALLERY

ADVANTAGES OF OUR DESIGNS

INDUSTRIAL APPLICATIONS

SPECS AND FACTS

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